

Program: Research and Monitoring - Cordell Bank NMS

Program Statement: Although research and monitoring activities have been the cornerstone of CBNMS, a formalized long-term plan that raises the profile of these activities needs to be developed for the site. Research and monitoring will continue to be a high priority and CBNMS staff will integrate the findings of these projects into education and outreach programs. Two specific areas the Sanctuary will focus on: 1) development of a coordinated and integrated research program for CBNMS, and 2) development of a long term monitoring plan. Scale of various aspects of the ecosystem, both spatial and temporal, will drive how monitoring, research and management issues are addressed.

GOAL	OBJECTIVE	ACTION
1) To increase our knowledge and understanding of the Cordell Bank ecosystem. 2) To develop research programs to identify and address specific resource management issues. 3) To develop monitoring programs to understand long term status and trends to guide management.	1. characterize Sanctuary 2. evaluate and synthesize characterization 3. identify and prioritize research needs based on criteria 4. determine monitoring objectives a. identify and understand impacts from human activities on the marine ecosystem 5. determine monitoring indicators 6. recommend research and monitoring results for inclusion in CBNMS' outreach and education programs 7. develop new and enhance existing partnerships with other agencies and institutions	Education/Outreach 6a. develop education/outreach recommendations for communicating research and monitoring findings to target audiences Research/Monitoring 1a. refine scale of bathy, substratum type and geology 1b. verified and vouchered species inventory (includes georeferencing) 1c. literature search 1d. data inventory 1e. describe persistent hydrographic features: physical, chemical and biological oceanography 1f. distribution and abundance of species of special concern (native and invasives) 2a. identification of hotspots of biodiversity 2b. develop spatial database 2c. produce peer reviewed conceptual model of how system functions at various temporal and spatial scales 3a/4a. identify high priority invasive aquatic species 3b./4b. track species range extensions 3c. identify data gaps 3d. work with partners to standardize sampling protocols 1g/4c. determine water quality data gaps 1h/4d. establish baseline for contaminants Administration 6b. develop framework for permitting authority and process in regards to research 7a. increase grant writing efforts for research and monitoring projects